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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
NOLAN, DANIEL A	

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/820,865	KORALL ET AL.	
	Examiner	Art Unit	
	Daniel A. Nolan	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) *30-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29 and 39-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-46* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). *040924* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 June 2004 has been entered.

Response to Amendment

3. The filing of 14 May 2004 was applied to the following effect that the claims were changed as indicated and examined on the merits.

Election/Restrictions

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-29 and 39-46, drawn to Speech Signal Processing, Application, Speech Controlled System, classified in class 704, subclass 275.

II. Claims 30-38, drawn to Data Processing: Vehicles, Navigation, and Relative Location, for Navigation Position Determining Equipment For Use In A Map Database, classified in class 701, subclass 211.

5. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case the apparatus as claimed is not an obvious apparatus for making the product and the apparatus as claimed can be used to make a different product such as interrogating a retail catalog by phone.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. During a telephone conversation with Ms Ruthleen Uy on September 28, 2004, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-29 and 39-46. Affirmation of this election must be made by applicant in replying to this Office action. Claims 30-38 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Tetzlaff & Rudnicky

10. Claims 1, 2, 6, 28, 29, 39 and 40 are rejected under 35 U.S.C. 103(a) as being anticipated by Tetzlaff (U.S. Patent 6,556,963 B1) in view of Rudnicky ("Matching the Input Mode to the Task", State of the Art; Pen and Voice Unite. Byte Magazine, October 1993).

11. Regarding claim 1, Tetzlaff, with the invention for *user state sensitive system and method for nutrient analysis using natural language interface,* reads on each feature of the claim for *an interface for remote user input for reading a database* as follows:

- Tetzlaff reads on the feature of *an automatic question unit operable to determine whether a user is connected via a voice-based* **or** *a text-based capable communication link* (205 & 215 in figure21), *and for eliciting input from a user in accordance with* the *determination* (with the teaching that the output be *appropriate* to the *input* – see column 3 lines 17 & 15, respectively);

  Tetzlaff does not elaborate further on the *appropriate* determination.

  Rudnicky describes discriminating between *alternate use of speech and text input in the same session* (2nd-3rd paragraphs page 102). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Rudnicky to the device/method of Tetzlaff to alternate between text and speech input to make appropriate entries and responses.

- Tetzlaff reads on the feature of *a speech recognition unit for recognizing a human speech input* (column 3 lines 25-26);

- Tetzlaff reads on the feature of *a data recognition unit for recognizing a remote data input* (column 3 lines 12-13); *and*
- Tetzlaff reads on the feature of *a query formulation unit, coupled to* the *speech and data units, and operable both for formulating a searchable query from a recognized input by at least one of* the *speech and data recognition units, and for prompting* the *automatic question unit to elicit additional input from the user* (608 in figure 6 – see column 6 lines 56-57); *and*
- Tetzlaff reads on the feature where *the interface is associated with a database to search* the *database using* the *recognized input* (column 8 line 29).

12. Regarding claim 2, the claim is set forth with the same limitations as claim 1. Tetzlaff reads on the feature that *speech recognition unit comprises a speech-to-text converter operable to convert a user speech input into query information for* the *database* (1003 in figure 10), *and* where the *database comprises text entries* (606 in figure 6 – see column 7 lines 67 & lines 38-46, describing the text recognition matching the database).

13. Regarding claim 6, the claim is set forth with the same limitations as claim 1.

- Tetzlaff reads on the feature *of an output unit for outputting a search result* (614 in figure 6), where the *output unit is operable to provide speech and text outputs, and*
- Tetzlaff teaches the feature *of a selector for selecting one of the speech and text outputs based on a user's data receipt ability* (with the specification that the

appropriate output will be used (column 3 line 17) which *inherently corresponds to the input as being the device of preference or greatest utility* (column 3 line 17).

14. Regarding claim 28, the claim is set forth with the same limitations as claim 1. Tetzlaff (column 7 lines 33-36) reads on the feature that *database comprises results fields including one of a text string field, a photograph field and a video sequence field.*

15. Regarding claim 29, the claim is set forth with the same limitations as claim 1. Tetzlaff reads on the feature that *question unit comprises a speech output operable to output questions in spoken form to users connected via speech-enabled devices* (column 3 lines 17-22) *and a text output to output questions in text form* (column 3 lines 15-16) *to users connected via text-enabled devices.*

16. Regarding claim 39, Tetzlaff reads on the features of the claim for *an interfacing method for a remote user input for reading a database* as follows:

- Tetzlaff reads on the feature of *determining a connection type of a user,* where the connection type is *a voice-based, a text-based* or *a combined voice-text capable communication link,* (205 & 215 in figure21), *and eliciting input from a user via either one of voice-and text based communication according to* the *connection type of the user* (with the teaching that the output be *appropriate* to the *input* – see column 3 lines 17 & 15, respectively);

  Tetzlaff does not elaborate further on the *appropriate* determination.

Rudnicky describes discriminating between *alternate use of speech and text input in the same session* (2nd-3rd paragraphs page 102). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Rudnicky to the device/method of Tetzlaff so as to switch modes to make appropriate entries and responses.

- Tetzlaff reads on the feature of *recognizing one of human speech and data input to* the *interface* (column 3 lines 25-26);
- Tetzlaff reads on the feature of *a data recognition unit for recognizing a remote data input* (column 3 lines 12-13); *and*
- Tetzlaff reads on the feature of *formulating a searchable query from* the *recognized input* (608 in figure 6 – see column 6 lines 56-57), *and eliciting further input from a user unless a query sufficient for searching* the *database has been formulated* (1004-1006 in figure 10); *and*
- Tetzlaff reads on the feature of *searching a database using the sufficient searchable* the *query* (column 8 line 29).

17. Regarding claim 40, the claim is set forth with the same limitations as claim 39. Tetzlaff reads on the feature *of determining whether an ambiguous answer is received from* the *database* (1004 in figure 10), *and if an ambiguous answer is received, then eliciting a further input from a user so as to obtain an unambiguous answer from* the *database* (1005-1006 in figure 10).

Tetzlaff, Rudnicky & Kupiec

18. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Kupiec (U.S. Patent 5,500,920).

19. Regarding claim 3, the claim is set forth with the same limitations as claim 1. Neither Tetzlaf nor Rudnicky mention *phonemes.* Kupiec reads on the feature of *a speech-to-phoneme converter* (50 in figure 2) *operable to convert a user speech input into query information for* that *database* (column 6 lines 53-55), *and* where that *database comprises entries made up of groups* (the "phones" of column 9 lines 29-37).

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kupiec to the device/method of Tetzlaf and/or Rudnicky to improve recognition by taking advantage of the observation that the intended words in a user's question usually are semantically related to each other and thus are likely to co-occur in a corpus within relatively close proximity of each other, contrasted with words in the corpus that spuriously match incorrect phonetic transcriptions are much less likely to be semantically related to each other and thus less likely to co-occur within close proximity of each other.

20. Regarding claim 4, the claim is set forth with the same limitations as claim 1. Neither Tetzlaff nor Rudnicky mention *phonemes.* Kupiec reads on the feature of *combined speech-to-text converter* (column 6 line 40) *and speech-to-phoneme*

converter (column 6 lines 44-50 & column 9 lines 38-51), *operable to convert a user input into query information* (column 6 lines 53-58) *for* that *database.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kupiec to the device/method of Tetzlaf and/or Rudnicky to improve accuracy of word matches by hypothesizing what words the user has spoken and then searching for co-occurrences of these hypothesized words in documents of the corpus by executing Boolean queries with proximity and order constraints.

21. Regarding claim 5, the claim is set forth with the same limitations as claim 1. Neither Tetzlaff nor Rudnicky speak to *confidence levels.* Kupiec reads on the feature *to determine a level of confidence of an output of* that *speech recognition unit* (with the "hypothesis scoring" of column 12 lines 15-22).

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kupiec to the device/method of Tetzlaf and/or Rudnicky to determine that the words match the query when the hypotheses that are considered to be preferred interpretations of the words in relation to the data base in which they are found are considered to be of probable relevance to the user's question.

Tetzlaff, Rudnicky & Dutton *et al*

22. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Dutton *et al* (U.S. Patent 6,138,100).

23. Regarding claim 7, the claim is set forth with the same limitations as claim 6. Neither Tetzlaff nor Rudnicky mention *mobile phones.* The *interface for a voice-activated connection system* of Dutton *et al* reads on the feature that *the interface is "interfaceable" to a* ***mobile*** *telephone data facility.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Dutton *et al* to the device/method of Tetzlaff and/or Rudnicky to provide services from remote locations.

24. Regarding claim 8, the claim is set forth with the same limitations as claim 1. Tetzlaff and Rudnicky are silent on the subject of *protocols.* Dutton *et al* reads on the feature *of a WEB, WAP, plain text* or *SMS* (with the "HTML" of column 7 lines 27-42). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Dutton *et al* to the device/method of Tetzlaff and/or Rudnicky so as to be able to search all available resources.

25. Regarding claim 9, the claim is set forth with the same limitations as claim 1. Tetzlaff does not mention *messaging.* Dutton *et al* (column 2 line 37) teaches the feature that *the interface is "interfaceable" to a messaging service.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Dutton *et al* to the device/method of Tetzlaff and/or Rudnicky so as to enable benefits that naturally become manifest as vocabularies increase.

Tetzlaff, Rudnicky & Meador III *et al*

26. Claims 10, 12, 14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Meador III *et al* (U.S. Patent 5,638,425 A).

27. Regarding claim 10, the claim is set forth with the same limitations as claim 1. Neither Tetzlaff nor Rudnicky address *internal phonetic spelling* (1002 in figure 10) for a *query formulation unit to submit a recognized speech input as a query to search* that *database* (603 in figure 6 – see lines 37-60 column 7), and Tetzlaff does not request spelling from the user. The *automated directory assistance system using word recognition and phoneme processing* of Meador III *et al* (124→130 in figure 7) reads on the feature that, *in the event of failure to obtain a match* (76→"B" in figure 3), *to prompt* that *automatic question unit to ask the user to* ***spell*** that *recognized speech input.* It would have been obvious to a person of ordinary skill in the art of speech signal

processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device/method of Tetzlaff and/or Rudnicky to provide a more efficient resolution for acronyms and homonyms that are semantically and logically unrelated so would be listed as alternatives.

28. Regarding claim 12, the claim is set forth with the same limitations as claim 10. Tetzlaff and Rudnicky are silent on the issue of *contact points*. Meador III *et al* read on the feature that the *database is a contact directory having at least one contact point for each of a plurality of searchable database entries* (with the *last name, street, number,* etc. in column 8 lines 55-57). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device/method of Tetzlaff and/or Rudnicky to distinguish between similar items.

29. Regarding claim 14, the claim is set forth with the same limitations as claim 12. Neither Tetzlaff nor Rudnicky mention *Boolean searching*. Meador III *et al* (last name, street, number, etc. in column 8 lines 57-59) reads on the feature that *a contact point is usable as an input to obtain a searchable database entry*. It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device/method of Tetzlaff and/or Rudnicky to produce a combined probability that will determine the satisfactory candidate.

30. Regarding claim 19, the claim is set forth with the same limitations as claim 1. Neither Tetzlaff nor Rudnicky invoke human interference. Meador III *et al* (with the "probability comparator" of column 3 lines 23-27) reads on the feature of *a confidence level determiner, associated with* that *speech recognition unit, and operable to* ***determine*** *a level of confidence for a recognition instance of* that *speech recognition unit,* that *confidence level determiner being further operable to connect a user to a* ***human operator*** (column 5 lines 4-8) *when a user input is associated with a confidence level lower that is less than a predetermined confidence threshold.,* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device/method of Tetzlaff and/or Rudnicky to conform to the operator-assisted information procedures that are familiar to users.

31. Regarding claim 20, the claim is set forth with the same limitations as claim 12. Neither Tetzlaff nor Rudnicky mention *call completion.* Meador III *et al* (column 2 line 25) reads on the feature of *a* ***switch*** *for connecting a user to a* ***contact point*** *retrieved from* that *database.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device/method of Tetzlaff to minimize the connection time.

Tetzlaff, Rudnicky, Meador III *et al* & Kupiec

32. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Meador III *et al* and further in view of Kupiec (U.S. Patent 5,500,920).

33. Regarding claim 11, the claim is set forth with the same limitations as claim 10. Neither Tetzlaff nor Rudnicky nor Meador III *et al* mention *associative linkage.* Kupiec (column 10 lines 39-68) reads on the feature for *associative linkage between associated names for widening searches on the basis of variations of input names.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kupiec to the device/method of Tetzlaff or Rudnicky and/or Meador III *et al* to store pointers to information of a state of the user including static attributes, current state and history.

Tetzlaff, Meador III *et al* & Imielinski *et al*

34. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Meador III *et al* and further in view of Imielinski *et al* (U.S. Patent 6,240,448).

35. Regarding claim 13, the claim is set forth with the same limitations as claim 12. Neither Tetzlaff nor Rudnicky nor Meador III *et al* address *output formats.* Imielinski *et*

al, with the *audio access to information in a wide area computer network,* read on the feature of *a hierarchy of contact point types is provided to define which of* that *contact points to output first* (column 11 lines 33-40). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Imielinski *et al* to the device and/or method of Tetzlaff and/or Rudnicky and/or Meador III *et al* to make the form of the response agree with the query.

Tetzlaff, Rudnicky & Ziauddin *et al*

36. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Ziauddin *et al* (U.S. Patent 6,581,055).

37. Regarding claim 15, the claim is set forth with the same limitations as claim 1. Tetzlaff & Rudnicky provide a fixed set of queries unrelated to the size of the database so do not read on a variable number of queries. Ziauddin *et al* (column 4 lines 40-45) read on the feature that the *question unit is programmable with a plurality of questions as a function of the size of the database.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method and/or teachings of Ziauddin *et al* to the device/method of Tetzlaff to make the user effort be in proportion to the number of query results.

38. Regarding claim 16, the claim is set forth with the same limitations as claim 15. Neither Tetzlaff nor Rudnicky mention *database searches.* Ziauddin *et al* (column 10 lines 47-51) reads on the feature that *questions are storable in a hierarchy* (the "rank" of column 51-58) *which corresponds to a predetermined search strategy for the database* (column 4 lines 1-3), *and* where that *automatic voice question unit is operable to stop asking questions* (by virtue of those "portions being disabled" in column 4 lines 36-39) *as soon as sufficient information has been obtained to terminate a database search.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Ziauddin *et al* to the device/method of Tetzlaff and/or Rudnicky to avoid user frustration by minimizing fruitless interrogations.

Tetzlaff, Rudnicky, Ziauddin *et al* & McDonough *et al*

39. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Rudnicky and further in view of Ziauddin *et al* and further in view of McDonough *et al* (U.S. Patent 5,625,748).

40. Regarding claim 17, the claim is set forth with the same limitations as claim 16. Where Tetzlaff specifies *database searches,* Tetzlaff and Rudnicky and Ziauddin *et al* are silent as to use of human operators. The *discriminator using posterior probability or confidence scores* of McDonough *et al* (58→20 in figure 5) reads on the feature that *the interface is operable to connect a user to a human operator when* that *hierarchy of*

questions has ended (column 12 lines 12-13) *and a database search has not been terminated.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method and/or teachings of McDonough *et al* to the device/method of Tetzlaff or Rudnicky and/or Ziauddin *et al* to extend the search/selection ability beyond the limitations of the computer programming.

Tetzlaff, Rudnicky, Ziauddin *et al* & Meador III *et al*

41. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Ziauddin *et al* and further in view of Meador III *et al*.

42. Regarding claim 18, the claim is set forth with the same limitations as claim 16. Where Tetzlaff specifies *database searches,* Tetzlaff and Rudnicky and Ziauddin *et al* are silent as to use of human operators. Meador III *et al* (column 5 lines 4-8) reads on the feature that *the interface is operable to connect a user to a human operator when a user input is not translatable into information usable for searching* that *database.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device and/or method of Tetzlaff or Rudnicky and/or Ziauddin *et al* so as to not have a search/selection process limited by the scope of the original programming.

Tetzlaff, Rudnicky & Kupiec

43. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Kupiec.

44. Regarding claim 21, the claim is set forth with the same limitations as claim 1. Tetzlaff and Rudnicky do not describe remotely located databases. Kupiec reads on the feature of *a data exchange mechanism operable to bring about data* ***interactivity*** *between* that *database and a remotely located user database* (column 6 line 26).

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kupiec to the device/method of Tetzlaff and/or Rudnicky to employ the well-known design of physically placing the support databases containing speech, language and food models closest to the source improves maintenance and data currency, while accessing from distributed locations simplifies the terminals and reduces access cost.

Tetzlaff, Rudnicky, Meador III *et al* & Emerson *et al*

45. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Meador III *et al* and further in view of Emerson *et al* (U.S. Patent 4,612,416).

46. Regarding claim 22, the claim is set forth with the same limitations as claim 14. Neither Tetzlaff nor Rudnicky nor Meador III *et al* speak to the *format of message headers.* With the *integrated message service system,* Emerson *et al* (column 13 line 62) reads on the feature *to insert an identification of a caller into a header of a message left by* that *caller.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method and/or teachings of Emerson *et al* to the device and/or method of Tetzlaff or Rudnicky and/or Meador III *et al* to identify the message for processing before opening, as *skipping* or *reporting status.*

47. Regarding claim 24, the claim is set forth with the same limitations as claim 22. Neither Tetzlaff nor Rudnicky nor Meador III *et al* mention the *format of message headers.* Emerson *et al* (column 13 lines 31-51) reads on the feature that *identification is one of a text string* (line 51), *a photograph, an audio sequence and a video sequence.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Emerson *et al* to the device/method of Tetzlaff or Rudnicky and/or Meador III *et al* to consolidate all messages by a particular category for ease of delivery and retrieval.

Tetzlaff, Meador III *et al* & Dutton *et al*

48. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky & further in view of Meador III *et al* & further in view of Dutton *et al.*

49. Regarding claim 23, the claim is set forth with the same limitations as claim 14. Neither Tetzlaff nor Rudnicky nor Meador III *et al* speak to the issue of *contact points.* Dutton *et al* (column 2 lines 44-50) reads on the feature that *contact point is a telephone number.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Dutton *et al* to the device/method of Tetzlaff or Rudnicky and/or Meador III *et al* provide a VAC with automatic dialing, for activity accounting and to provide a discriminator to distinguish between similar selections.

Tetzlaff, Rudnicky & Admitted Prior Art

50. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tetzlaff in view of Rudnicky and further in view of Admitted Prior Art.

51. Regarding claim 25, the claim is set forth with the same limitations as claim 1. Neither Tetzlaff nor Rudnicky mention *location,* but the instant application (last paragraph page 27) describes currently available *databases searchable to retrieve a location, and* where that *retrieved location is "super-imposable" on one of a map, a video and a photograph.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of the Admitted Prior Art to the device/method of Tetzlaff or Rudnicky because not employing

the well-known "you are here" map will make the service available to those unable to read lengthy directions, whether for lack of time, foreign language or age and education.

52. Regarding claim 26, the claim is set forth with the same limitations as claim 25. Tetzlaff (column 7 line 35) reads on the feature of *a graphical output unit operable to send* a *map to* a *user.*

53. Regarding claim 27, the claim is set forth with the same limitations as claim 25. Tetzlaff does not mention *mapping a route.* The Admitted Prior Art (4th line from end page 27) reads on the feature of *a* currently available *location system operable to determine a current location of a user,* that *location system is operable to trace a route from* that *current location to* that *retrieved location.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Admitted Prior Art to the device/method of Tetzlaff and/or Rudnicky to avoid the misdirection possible with complex written instruction.

Meador III *et al* & Admitted Prior Art

54. Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador III *et al* in view of the Admitted Prior Art.

55. Regarding claim 30, Meador III *et al* reads on the feature of *geographic location data* (114 in figure 6) *associated with personal identification data* but does not disclose

use *in search queries to obtain an associated location.* The instant application (page 27 last paragraph) reads on the features of the claim for *a "positioner" for determining a current position of an enquirer* (6th line from end page 27) *receive* that *location data from* that *location database in response to a query involving* that *personal identification data; and* (last line page 27) *a route determiner for determining a route from* that *current position to* that *desired location using* that *location data.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of the Admitted Prior Art to the device/method of Meador III *et al* to add the ability to plan and personally meet with the conversant/correspondent by using the well-known "reverse locator" feature in directories that is used by direct marketing and public service that provides addresses and location information for given telephone numbers.

56. Regarding claim 31, the claim is set forth with the same limitations as claim 30. Meador III *et al* (column 3 line 30) reads on the feature that *location database is a directory associating subscriber identification data with subscriber address data.*

57. Regarding claim 32, the claim is set forth with the same limitations as claim 30. Meador III *et al* does not address *mapping a route.* The Admitted Prior Art (with "map to guide", 7th line from end page 27) reads on the feature of *a graphical output operable to output* that *route as a route on a map.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply

the method/teachings of Admitted Prior Art to the device/method of Meador III *et al* so as to avoid the misdirection possible with complex written instruction.

58. Regarding claim 33, the claim is set forth with the same limitations as claim 32. Meador III *et al* discloses *interactive* products but not in conjunction with geographical work. The Admitted Prior Art (by stipulating the "current location" in the 5th line from the end of page 27) reads on the feature that *graphical output is operable to output* that *route in real time*. It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method and/or teachings of Admitted Prior Art to the device/method of Meador III *et al* so as to ensure that the directions generated reflect the most current road and building configuration.

Meador III *et al*, Admitted Prior Art & Anderson *et al*

59. Claims 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meador III *et al* in view of the Admitted Prior Art and further in view of Anderson *et al*.

60. Regarding claim 34, the claim is set forth with the same limitations as claim 30. Neither Meador III *et al* nor the Admitted Prior Art speak to determining whether the mode of output is *speech or text.* Anderson *et al* (claim 1 column 9 lines 56-64) reads on the feature of *a combined voice and text output operable to determine whether a user is connected via one of voice capable and text capable communication, and*

operable to output that *route as a sequence of instructions in text and voice format in accordance with* that *determination.*

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Anderson *et al* to the device/method of Meador III *et al* & the Admitted Prior Art so as to keep ROM requirement low by eliminating the need to program alternatives to patently obvious conditions.

61. Regarding claim 35, the claim is set forth with the same limitations as claim 34. Neither Meador III *et al* nor the Admitted Prior Art speak to the subject of *defined languages.* Anderson *et al* (column 21 lines 1-6) reads on the feature that *combined voice and text output is operable to output* that *sequence of instructions in a pre-selected language* which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Anderson *et al* to the device/method of Meador III *et al* & the Admitted Prior Art so as to permit multi-lingual access.

62. Regarding claim 36 as understood by the Examiner, the claim is set forth with the same limitations as claim 35. Meador III *et al* as presented by the Admitted Prior Art (page 3 lines 10-18) reads on the feature that *sequence in* that *pre-selected language is obtainable from a corresponding sequence in a base language by real time automatic translation.*

63. Regarding claim 37, the claim is set forth with the same limitations as claim 30. Meador III *et al* does not discuss geographic matter. The Admitted Prior Art (with the disclosure of "GPS" on 6th line from end of page 27) reads on the feature that *location data comprises map co-ordinates* which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method and/or teachings of the Admitted Prior Art to the device/method of Meador III *et al* so as to eliminate the need for the user to interpret the information provided.

64. Regarding claim 38, the claim is set forth with the same limitations as claim 30. Meador III *et al* does not discuss geographic matter. The Admitted Prior Art (with the association of the "GPS" to the current location - on the 6th & 5th lines from end of page 27 respectively) reads on the feature that that *positioned is operable to translate street address data into corresponding map co-ordinates* which would have made it obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Admitted Prior Art to the device/method of Meador III *et al* so as to eliminate the need for the user to interpret the information provided.

Kupiec & Everett

65. Claims 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kupiec in view of Everett (U.S. Patent 6,701,162 B1).

66. Regarding claim 41, Kupiec reads on the feature of *remotely reading a database via a remote communication device having a communication mode* (column 26 lines 36-51), prepared as follows:

- Kupiec reads on the feature of *entering a query request via* that *remote communication device in* that *communication mode* (column 24 lines 22-26),
- Kupiec reads on the feature of *sending* that *query request to a communication interface in* that *communication mode* (column 24 lines 66-67),
- Kupiec reads on the feature of *receiving instructions in* that *communication mode for entering query items to form a database search query* (column 25 lines 30-33),

Kupiec does not query for additional information. Everett, with the invention for a *portable electronic telecommunication device having capabilities for the hearing-impaired*, reads on the feature where *when* the *query items are insufficient to form* the *query for interrogating* the *database, receiving additional instructions in* the *communication mode for entering additional query items* (78 in figure 5 & 62 in figure 4 – see column 4 lines 29-44). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Everett to the device/method of Kupiec to correct errors without requiring another mode of input.

67. Regarding claim 42, the claim is set forth with the same limitations as claim 41. Kupiec reads on the feature that the *communication mode is a mode of voice communication* (column 1 line 43).

68. Regarding claim 43, the claim is set forth with the same limitations as claim 41. Kupiec teaches the feature that *communication mode is of text communication mode* by disclosing the invention with *text-input applications* (column 22 lines 26 & 30-31).

69. Regarding claim 44, the claim is set forth with the same limitations as claim 41. Kupiec teaches the feature that *database interrogation mode is a text communication mode* with the depiction of the *transcriber* converting speech to text in preparing queries (250 in figure 11).

70. Regarding claim 45, the claim is set forth with the same limitations as claim 42. Kupiec reads on the feature that database interrogation mode is phonemes communication mode with the disclosure of *a speech-to-phoneme converter* (50 in figure 2) *operable to convert a user speech input into query information for* that *database* (column 6 lines 53-55).

Kupiec, Everett & Meador III *et al*

71. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kupiec in view of Everett and further in view of Meador III *et al*.

72. Regarding claim 46, the claim is set forth with the same limitations as claim 41. Neither Kupiec nor Everett disclose that the *database* is *interrogated by name.* Meador III *et al* reads on the feature that the *database is interrogated based on a person's name* (*column* 4 *lines* 50-65). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Meador III *et al* to the device/method of Kupiec for prompting user to speak name and location of sought party, and digitizing responses before feeding them to speech recognition devices, whose outputs are used to search database for corresponding number as cited by *DERWENT 1997-319358* in the prior art made of record with the previous action and not relied upon but considered pertinent to applicant's disclosure at that time.

Conclusion

73. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Oberteuffer *et al* (U.S. Patent 6,438,523 B1) for *processing handwritten and hand-drawn input and speech input.*
- Finan *et al* ("Speech-Based Dialogue Design For Usability Assessment", IEE Colloquium on Interfaces - The Leading Edge, Digest No.1996/126, April 1996)

different direct voice input/output (DVIO) dialogues in multitasking accommodate complex dialogue structures and may be used with other media.

- Rudnicky'93 ("Mode Preference in a Simple Data-Retrieval Task", ARPA Human Language Technology Workshop, 1993) multi-modal environment in which actions can be performed with equivalent effect in speech, keyboard or "scroller" modes.
- McGee *et al* "Confirmation In Multimodal Systems", International Conference On Computational Linguisitics, 1998) combine simultaneous input from multiple modes.
- Blattner ("In Our Image: Interface Design In The 1990s", This paper appears in: Multimedia, IEEE, Spring 1994) multimedia interface designers use human senses to ease communication.
- Roberts *et al* (U.S. Patent 5,027,406 A) for interactive speech recognition and training with auxiliary input for correction.
- Douma *et al* (U.S. Patent 5,583,965 A) for training and operating voice recognition systems provides for alternate input modes.
- Ittycheriah *et al* (U.S. Patent 5,924,070 A) voice dialing with shared directories provides a location finder (reverse directory) given number.

74. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel A. Nolan whose telephone number is (703)305-1368. The examiner can normally be reached on Mon, Tue, Thu & Fri, from 7 AM to 5 PM. If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached at (703)305-9645.

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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The fax phone number for Technology Center 2600 is (703)872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE". Formal response to this action may be faxed according to the above instructions,

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Alexandria, VA 22313-1450

or hand-deliver to: Crystal Park 2,
2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

Daniel A. Nolan
Examiner
Art Unit 2654

DAN/d
September 28, 2004

DANIEL NOLAN
PATENT EXAMINER